

# EUROPEAN PATENT OFFICE

## Patent Abstracts of Japan

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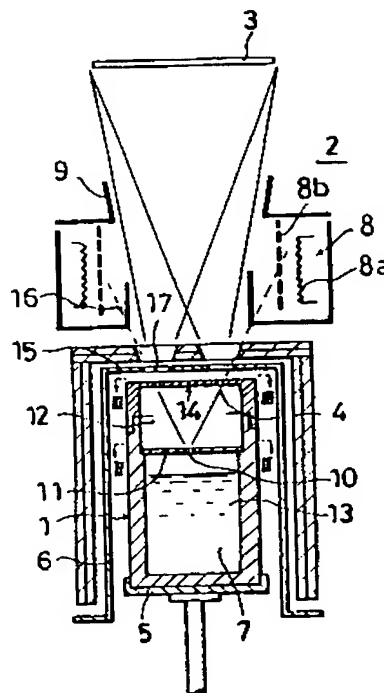
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APPLICATION NUMBER : 58223134

APPLICANT : ULVAC CORP;

INVENTOR : TSUCHIYA KOYO;

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TITLE : VAPOR SOURCE DEVICE FOR  
CLUSTER ION BEAM



ABSTRACT : PURPOSE: To improve vapor deposition rate and to obtain good film quality by segmenting the inside of a hermetic type crucible with a partition plate formed with large nozzles to upper and lower chambers, shifting geometrically small nozzles formed in the upper wall part of the crucible with respect to the nozzles of the partition plate and making the temp. in the upper chamber higher.

CONSTITUTION: A hermetic type crucible 1 is vertically segmented by a partition plate 11 having plural nozzles 10 of a large area to upper and lower chambers and an evaporating material 7 is housed in a lower chamber 13. Nozzles 4 having the area smaller than the area of the nozzles 10 are provided in the upper wall part 14 at the top of the crucible 1 and both nozzles 4, 10 are geometrically shifted. Through-holes 17 are provided to the upper heater 15 of the crucible 1. When the crucible 1 is heated by the heater 6 in this state, the vapor of the material 7 is ejected by passing successively through the nozzles 10 of the plate 11 and the nozzles 4 of the wall part 14 but even if the vapor condenses to the nozzle 10, direct spitting to a substrater 3 is obviated by the nozzles 4 shifted geometrically therefrom and since the temp. in the upper chamber 13 is made higher by the heater 15, the condensation of the vapor near the nozzles 4 is prevented.

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